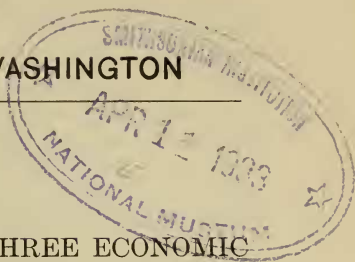


PROCEEDINGS
OF THE
BIOLOGICAL SOCIETY OF WASHINGTON



NOTES ON THE TAXONOMY OF THREE ECONOMIC
SPECIES OF MITES, INCLUDING THE
DESCRIPTION OF A NEW SPECIES.

BY H. E. EWING,
United States Bureau of Entomology.

Notes are given in the following short paper on three economic species of mites. The proper scientific name for the tarsonemid mite attacking strawberries in America is discussed, record is made of an introduced mite pest of wheat, and a second mite species from the tracheae of grasshoppers is described.

SPECIFIC IDENTITY OF THE AMERICAN TARSONEMID MITE ATTACKING
STRAWBERRY.

Tarsonemid mites doing injury to strawberries have been referred to under three specific names

- T. fragariae* Zimm. (1905).
- T. destructor* Reuter (1906).
- T. pallidus* Banks (1899).

After Reuter had described *T. destructor* as a new species he changed his mind and regarded it as only a synonym of *T. fragariae* Zimm.

Massee (1930), Jour. Pomology and Horticultural Sci., vol. viii, No. 4, p. 305, stated that *T. pallidus* Banks is distinct. He compared Canadian specimens sent to him by W. A. Ross with European specimens of *T. fragariae*. He states: "The third joint of the fourth pair of legs of *T. fragariae* Zimm. bears two strong, stout fingers; a fine, short hair; and a very long bristle which is acuminate at apex. The third joint of the fourth pair of *T. pallidus* Banks possesses two short spines, which are very much weaker than those of *T. fragariae* Zimm. A short, clavate hair is present and also a very long thread-like hair."

Our American form should be known as *T. pallidus* Banks. Variations sufficient to justify a new species have not been found up to date.

AN INTRODUCED ERIOPHYID ON WHEAT.

On January 20, 1932, Professor H. C. Severin, of South Dakota State College, sent in for identification some Eriophyids on wheat plants that came from a greenhouse of the Agronomy Department of that school. The specimens were unusually long and agreed well with the published figures and descriptions of the European grain Eriophyid, *Eriophyes tenuis* (Nalepa). If this identification is correct it makes, as far as known, a new record of the introduction of an injurious species.

According to Professor Severin the mites were very injurious. He states: "The wheat was all destroyed by some mites. The mites have not only taken the wheat, but they are also going after some barley and are beginning to work upon some flax growing in the same house."

A SECOND SPECIES OF THE MITE GENUS LOCUSTACARUS.

The mite genus *Locustacarus* was established by the writer in 1924 for a species, *L. trachealis* Ewing, which has the peculiar habit of infesting the tracheae of grasshoppers. It was first discovered in 1914, but its interesting habits were not described until 1925, when Wehrle and Welch (An. Ent. Soc. Am., vol. XVIII, pp. 35-44) published their paper. Up until the present only one other mite species has been known habitually to infest the tracheae of an insect. This species is the well known *Acarapis woodi* (Rennie), which causes the serious disease of adult honeybees known as "Isle of Wight disease."

Recently B. P. Uvarov has sent to me for identification a second species of the genus *Locustacarus* which was collected from the air sacs of *Locusta migratorioides* in Africa by Mr. W. V. Harris. Its habits will be described in a forthcoming report by Mr. Harris. Here it is named and described, and a comparison is made between it and the previously known *Locustacarus trachealis*.

***Locustacarus locustae*, new species.**

Nongravid female: Body stout, almost spherical. Capitulum about as long as broad, with several minute terminal or subterminal setae and a pair of long conspicuous dorsal setae. Chelicerae needlelike, somewhat looped at the base and in repose not quite reaching the tips of the first pair of legs. Cephalothorax covered above by a poorly sclerotized plate and bearing three pairs of dorso-lateral setae, the first pair being the shortest and the last pair the longest; the second pair is about equal to the cephalothorax in length. Abdomen short, reduced, with a large dorsal plate in front which is separated by transversely lined cuticle from a small, disclike, dorsal plate at the rear. Anterior dorsal plate of abdomen with a very large, conspicuous pair of setae at the posterior angles and a minute discal pair. Posterior dorsal plate of abdomen ending in a conspicuous tubercle that bears a pair of very long, submedian setae, equal in length to about one-half the width of the abdomen. In addition the posterior dorsal plate bears a pair of small setae near its anterior margin. Anterior pair of legs broad to their tips; tarsi each with a sessile pulvillus and degenerate claws and with sensory seta lateral and very close to posterior margin.

Second pair of legs tapering; tarsi each somewhat bifurcate distally with two clawlike processes, the inner being the stouter, and a large pedicellate terminal sucker. Posterior pair of legs similar to the second pair, except that the tarsi lack the clawlike processes.

Length of nongravid female, 0.19 mm.; width, 0.14 mm.

Type host.—A grasshopper, *Locusta migratorioides*.

Type locality.—Shinyanga, Tanganyika Territory, Africa.

Type slide.—U. S. N. M. No. 1049.

An abundance of material at hand consisting of eggs, newly hatched females, and females in various stages of engorgement. No males found. This species differs from *L. trachealis* Ewing in being stouter, having very definitely sclerotized dorsal plates, smaller claws, better developed pulvilli or suckers on the second and third legs, and in a number of less important details.